



Caregiver Knowledge and Attitudes toward Stunting Prevention in Indonesia: A Secondary Analysis of SSGI 2024

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Abstract

Stunting prevention requires not only nutrition-specific and nutrition-sensitive interventions but also adequate caregiver knowledge and supportive attitudes toward child growth, feeding, infection prevention, and maternal health. This article describes caregiver knowledge and attitudes toward stunting prevention in Indonesia using secondary aggregate data from the 2024 Indonesian Nutritional Status Survey (SSGI 2024). A descriptive secondary analysis was applied to publicly available SSGI 2024 tables on caregiver knowledge and attitudes about stunting. The analysis focused on four aspects: definition, causes, prevention, and consequences of stunting, as well as the composite high/good score across all aspects. SSGI 2024 assessed the main caregivers of children under five, most of whom were mothers. Nationally, the proportion of respondents with high scores was 2.0% for the definition of stunting, 4.7% for causes, 9.3% for prevention, and 26.9% for consequences. The composite high/good score across all stunting aspects was 1.7%, showing that comprehensive knowledge and attitudes remained limited. By characteristics, the composite high/good score was higher among female respondents than male respondents and varied by age group. These findings indicate that caregiver literacy about stunting prevention remains a major challenge despite national progress in reducing stunting prevalence. Strengthening caregiver-centered nutrition education, counseling quality, and community-based communication is necessary to improve stunting prevention practices in Indonesia.

Keywords: Caregiver Knowledge, Attitude, Stunting Prevention, SSGI 2024, Child Nutrition, Indonesia

1. Introduction

Stunting remains one of the most important child nutrition problems in Indonesia because it reflects chronic growth failure during early life. It is associated with inadequate nutrient intake, repeated infection, poor caregiving practices, inadequate sanitation, limited access to health services, and broader socioeconomic vulnerability [1], [2]. Although Indonesia has made progress in reducing stunting, the problem continues to require sustained policy attention and effective household-level prevention. UNICEF Indonesia reported that stunting among children under five decreased from 37.6% in 2013 to 19.8% in 2024, but provincial disparities and concentration of cases remain important challenges [2]. These conditions indicate that stunting prevention must address not only service coverage but also caregiver understanding and decision-making at the family level.

Caregivers play a central role in stunting prevention because they influence feeding practices, health care seeking, hygiene behavior, antenatal care adherence, and early childhood

care. Knowledge about the definition, causes, prevention, and consequences of stunting can shape how families respond to nutrition messages and child growth problems [3], [4]. Attitudes are also important because positive beliefs about prevention may support appropriate actions such as exclusive breastfeeding, adequate complementary feeding, animal-source food consumption, infection prevention, and use of maternal and child health services [5], [6]. Therefore, caregiver knowledge and attitudes are important components of nutrition literacy and behavior change strategies. Low understanding of stunting may reduce the effectiveness of national programs even when services are available.

The 2024 Indonesian Nutritional Status Survey (SSGI 2024) provides a relevant national source for examining caregiver knowledge and attitudes toward stunting. The survey measured knowledge and attitudes using four aspects: the definition of stunting, causes of stunting, ways to prevent stunting, and consequences of stunting [1]. SSGI 2024 also classified scores into high/good and low/poor categories for each aspect and for the overall composite score [1]. Because the respondents were the main caregivers of children under five, the dataset provides useful insight into household-level readiness to support stunting prevention. This information is important for nutrition education planning and for strengthening communication strategies in community health services.

Previous nutrition literature emphasizes that education and counseling can improve caregiver knowledge, but behavior change requires messages that are clear, repeated, culturally relevant, and connected to service delivery [7], [8]. In Indonesia, stunting prevention has been implemented through multisectoral policies, community-based platforms, Posyandu, maternal classes, and family support programs [9], [10]. However, descriptive evidence from SSGI 2024 can help identify whether caregivers have adequate integrated understanding of stunting across multiple aspects. Therefore, this study aimed to describe caregiver knowledge and attitudes toward stunting prevention in Indonesia using SSGI 2024 aggregate data. Specifically, it examined national high-score proportions by aspect, the composite high/good score, and selected differences by province and caregiver characteristics.

2. Materials and Methods

This study used secondary aggregate data from SSGI 2024 to describe caregiver knowledge and attitudes about stunting prevention in Indonesia. The article followed the JUNC manuscript structure by presenting the data source, population, variables, analysis procedures, and ethical considerations. Because the study used published tables rather than individual-level microdata, the analysis was descriptive and did not attempt to estimate causal relationships. The results were interpreted as population-level patterns useful for nutrition education and public health planning. All numerical findings were taken from the published SSGI 2024 report.

2.1 Study Design

This study applied a secondary descriptive analysis design. The main purpose was to summarize and interpret aggregate national survey findings on caregiver knowledge and attitudes toward stunting prevention. A secondary design was appropriate because the SSGI 2024 report already provides relevant national and subnational tables on the topic [1]. The study did not collect new primary data, conduct interviews, or perform anthropometric measurements. Therefore, the findings are presented as descriptive evidence rather than causal inference.

The descriptive approach was selected because the available SSGI 2024 tables report proportions and confidence intervals rather than respondent-level records. This format allows comparison across aspects, provinces, and selected caregiver characteristics. The analysis focused on public health interpretation rather than hypothesis testing. Such an approach is useful for identifying gaps in caregiver nutrition literacy and for informing education strategies. The findings can support policy discussion on how stunting prevention messages should be strengthened at household and community levels.

2.2 Data Source

The primary data source was the publicly available SSGI 2024 report published by the Ministry of Health of the Republic of Indonesia [1]. SSGI 2024 is a national cross-sectional survey designed



to evaluate nutritional status and determinants of nutrition among children under five. The survey includes data on child nutrition outcomes, household characteristics, health service access, feeding practices, sanitation, and knowledge and attitudes about stunting. The present study used the section on family support and knowledge about stunting. This section provides the empirical basis for examining caregiver readiness to support stunting prevention.

The SSGI 2024 report states that knowledge and attitudes about stunting were assessed among the main caregivers of children under five, most of whom were mothers [1]. The assessment covered four aspects: definition, causes, prevention, and consequences of stunting. The report also provides a composite score for the overall knowledge and attitude construct across all aspects. These data are relevant because stunting prevention depends on caregiver understanding of both biological and behavioral risk factors. The survey therefore offers a national picture of caregiver literacy on stunting prevention.

In addition to SSGI 2024, this article used relevant policy and scientific references to interpret the findings. These included UNICEF and WHO materials on child nutrition, global child malnutrition estimates, stunting prevention strategies, and evidence on maternal and child undernutrition [2]-[20]. The additional references were used only to support background and discussion, not to replace the SSGI 2024 numerical data. This ensured that the results remained grounded in real SSGI 2024 data. The article therefore combines national descriptive evidence with current public health nutrition literature.

2.3 Study Population and Variables

The population of interest was the main caregivers of children under five included in the SSGI 2024 survey. In the knowledge and attitude section, SSGI 2024 describes respondents as the primary caregivers of children under five, most of whom were mothers [1]. This group was selected because caregivers make many daily decisions related to child feeding, hygiene, health care use, and growth monitoring. Their knowledge and attitudes therefore represent an important pathway through which nutrition policies may influence household practices. The analysis did not include individual identifiers or respondent-level records.

The variables analyzed in this study were high/good scores for knowledge and attitudes about stunting. SSGI 2024 measured four aspect scores: definition of stunting, causes of stunting, ways to prevent stunting, and consequences of stunting [1]. The report classified each aspect into high/good and low/poor categories using defined score thresholds. It also calculated a composite high/good score for all aspects combined. The main outcome of interest was the proportion of respondents classified as high/good in each aspect and in the composite measure.

The study also considered selected descriptive comparisons by province and respondent characteristics. Provincial comparison was used to identify geographic differences in comprehensive knowledge and attitudes. Characteristic-based comparison was used to describe variation by age group and sex, based on the SSGI 2024 tables [1]. The analysis did not perform adjustment for education, income, or other confounders because only aggregate tables were used. Therefore, the results should be interpreted as descriptive patterns rather than statistically adjusted associations.

2.4 Data Analysis

Data analysis was conducted descriptively by extracting percentages, 95% confidence intervals, and sample sizes from SSGI 2024 tables. The national proportion of respondents with high/good scores was summarized for each stunting aspect. The composite high/good score was used to describe overall caregiver knowledge and attitudes toward stunting prevention. Selected provincial and characteristic-based values were also presented to illustrate disparities. No individual-level statistical modeling was conducted because the study did not access microdata.

Differences were interpreted using percentage values and simple comparisons across categories. The analysis emphasized the relative gap between partial knowledge and comprehensive knowledge. For example, high scores for consequences of stunting were compared with lower scores for definition, causes, and prevention. Tables and a figure were prepared to present the findings clearly. The discussion then interpreted these patterns in relation to nutrition education, caregiver counseling, and community-based stunting prevention.



2.5 Ethical Consideration

This study used publicly available aggregate data and did not access personal identifiers. Therefore, additional ethical approval was not required for the secondary analysis. The original SSGI 2024 survey reported ethical approval from the Health Research Ethics Committee of Poltekkes Jakarta II with approval number DP.04.03/I/KE/230/2024 [1]. The present study maintained data integrity by reporting values as presented in the published report. Findings were discussed in a non-stigmatizing manner to support improvement of caregiver-centered nutrition education.

3. Results

The results describe how caregiver knowledge and attitudes toward stunting were measured and what patterns were observed in SSGI 2024. The presentation begins with the measurement structure and scoring thresholds, followed by national findings for each aspect. It then presents selected provincial and respondent-characteristic differences. All numerical values in the tables were taken from SSGI 2024. The interpretation focuses on the implications for nutrition education and stunting prevention communication.

3.1 Measurement Structure and Scoring

SSGI 2024 measured caregiver knowledge and attitudes about stunting using four aspects: definition, causes, prevention, and consequences [1]. The definition aspect consisted of six statements, the causes aspect consisted of seven statements, the prevention aspect consisted of four statements, and the consequences aspect consisted of three statements. Responses to positive and negative statements were scored according to whether the answer was considered appropriate. This structure allowed the survey to distinguish between partial knowledge and integrated understanding. The full composite score was calculated from 20 statements across all aspects.

The scoring thresholds in SSGI 2024 classified respondents into high/good and low/poor categories. A high/good score required at least 18 points for the definition aspect, 21 points for causes, 12 points for prevention, and 9 points for consequences [1]. For the full composite measure, knowledge and attitudes were categorized as high/good when the total score across 20 statements was at least 60. This approach means that respondents needed consistent appropriate responses across multiple domains to be classified as having high/good overall knowledge and attitudes. The scoring structure is summarized in Table 1.

Table 1. Scoring structure for caregiver knowledge and attitudes about stunting in SSGI 2024

Aspect	Number of statements	High/good score threshold
Definition of stunting	6	≥ 18
Causes of stunting	7	≥ 21
Ways to prevent stunting	4	≥ 12
Consequences of stunting	3	≥ 9
Composite score across all aspects	20	≥ 60

3.2 National High Scores by Aspect

Nationally, the proportion of caregivers with high/good scores varied substantially across the four stunting aspects. The highest proportion was found for the consequences of stunting, with 26.9% of respondents classified as high/good [1]. The prevention aspect had a lower high/good score of 9.3%, while the causes aspect reached 4.7%. The lowest proportion was found for the definition of stunting, with only 2.0% of respondents classified as high/good. These results show that caregivers were more likely to have high scores on consequences than on the conceptual definition, causes, or prevention of stunting.

The low high-score proportions for definition and causes suggest that many caregivers may not have complete conceptual understanding of stunting. This is important because prevention behavior depends not only on knowing that stunting has negative consequences but also on understanding how it occurs and how it can be prevented. The prevention score of 9.3% indicates that adequate understanding of prevention messages remained limited at the national level. The



gap between consequences and prevention also suggests that communication may be more successful in emphasizing the seriousness of stunting than in translating knowledge into clear preventive actions. Table 2 and Figure 1 summarize the national aspect-level findings.

The national sample size for the aspect-level scoring table was 269,719 respondents [1]. Because this was a large national survey, the results provide important evidence for national nutrition education planning. However, the values reflect aggregate high-score classifications and should not be interpreted as individual-level determinants. The findings suggest that educational strategies should strengthen all domains of stunting literacy, particularly causes and prevention. Messages should therefore move beyond general awareness and focus on practical caregiver actions.

Table 2. National proportion of respondents with high/good scores by stunting aspect, SSGI 2024

Aspect	High/good (%)	95% CI	N
Definition of stunting	2.0	1.8-2.1	269,719
Causes of stunting	4.7	4.5-4.8	269,719
Ways to prevent stunting	9.3	9.0-9.5	269,719
Consequences of stunting	26.9	26.5-27.2	269,719

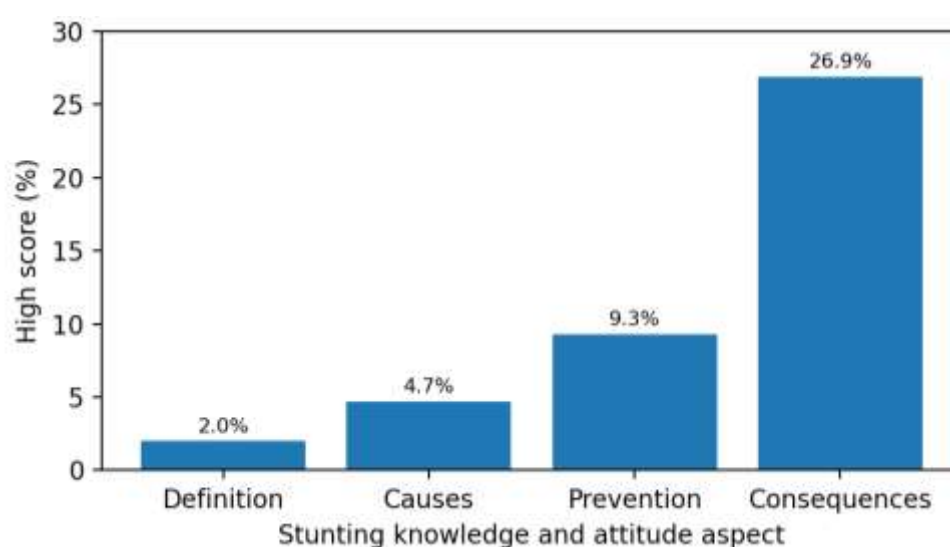


Figure 1. National high/good scores for caregiver knowledge and attitudes by stunting aspect in SSGI 2024

3.3 Composite Score and Selected Differences

The composite high/good score across all stunting aspects was 1.7% nationally [1]. This value was lower than the high/good score for each separate aspect, showing that comprehensive knowledge and attitudes were much less common than partial knowledge. In other words, some caregivers may understand one aspect of stunting but may not have adequate understanding across the full set of definition, causes, prevention, and consequences. This finding is important because effective prevention requires integrated knowledge. The national composite result indicates a substantial need to strengthen caregiver-centered communication.

Provincial values showed substantial variation in the composite high/good score. Selected SSGI 2024 results showed that Central Java had a relatively higher composite score of 8.2%, followed by Papua at 3.9% and DI Yogyakarta at 2.2% [1]. Several provinces had very low values, including Aceh, West Sumatra, Bali, West Nusa Tenggara, and West Sulawesi at 0.3%, and Riau Islands at 0.2% [1]. These differences indicate that caregiver knowledge and attitudes about stunting are uneven across regions. Regional differences may reflect variation in communication exposure, service delivery, education, program implementation, and local context.

Differences were also observed by respondent characteristics. The composite high/good score was 0.8% among male respondents and 1.8% among female respondents [1]. By age group, the highest selected value was found among respondents aged 25-29 years at 2.2%, followed by 30-34

years at 2.0% and 20-24 years at 1.6% [1]. Lower values were observed among older age groups, including 0.7% among respondents aged 45-49 years and above 54 years [1]. These patterns suggest that caregiver education strategies may need to be adjusted to age and gender differences.

The findings across provinces and characteristics should be interpreted descriptively because this study used aggregate tables. The data do not identify why some regions or groups had higher scores than others. However, they help highlight where nutrition communication may need greater attention. The very low composite score nationally suggests that caregiver knowledge and attitudes require stronger integration across definitions, causes, prevention, and consequences. Table 3 summarizes selected composite score findings used in this study.

Table 3. Selected composite high/good scores for caregiver knowledge and attitudes about stunting, SSGI 2024

Category	Selected group	High/good (%)	95% CI / note	N
National	Indonesia	1.7	1.6-1.9	269,719
Province	Central Java	8.2	7.4-9.0	21,940
Province	Papua	3.9	2.6-5.8	4,569
Province	DI Yogyakarta	2.2	1.6-3.0	2,826
Province	Riau Islands	0.2	0.1-0.6	3,488
Sex	Male respondents	0.8	0.6-1.1	6,492
Sex	Female respondents	1.8	1.6-1.9	263,227
Age group	25-29 years	2.2	2.0-2.5	63,901
Age group	30-34 years	2.0	1.8-2.1	73,104
Age group	45-49 years	0.7	0.5-1.1	7,758

4. Discussion

This study found that comprehensive caregiver knowledge and attitudes toward stunting prevention were limited in Indonesia. Although 26.9% of respondents had high/good scores for the consequences of stunting, only 2.0% had high/good scores for the definition, 4.7% for causes, and 9.3% for prevention [1]. The national composite high/good score of 1.7% indicates that very few caregivers demonstrated strong understanding across all aspects [1]. This pattern suggests a gap between awareness of the seriousness of stunting and integrated understanding of how stunting occurs and can be prevented. Such a gap may reduce the effectiveness of household-level prevention practices.

The findings are important because caregiver knowledge is closely linked to nutrition-related decision-making. Stunting prevention requires actions across pregnancy, infancy, and early childhood, including maternal nutrition, antenatal care, breastfeeding, complementary feeding, hygiene, disease prevention, and growth monitoring [3], [5]. If caregivers do not understand causes and prevention pathways, nutrition messages may not translate into sustained practices. The lower prevention score in SSGI 2024 suggests that practical prevention messages need to be strengthened. Counseling should therefore emphasize what caregivers can do in daily life, not only what stunting is or why it is harmful.

The provincial differences indicate that national averages may conceal important regional gaps. Central Java showed a higher composite score than many other provinces, while several provinces had values below 0.5% [1]. These variations may reflect differences in education, access to counseling, local program intensity, media exposure, and service delivery quality. However, because this study used aggregate data, it cannot explain the causes of regional differences. Future research using microdata could examine determinants of caregiver knowledge and attitudes more precisely.

The difference between male and female respondents also deserves attention. Female respondents had a higher composite score than male respondents, but the score remained low in both groups [1]. Because mothers are often the primary caregivers, nutrition programs frequently focus on women, yet fathers and other family members also influence food purchasing, care decisions, and health service utilization. Stunting prevention communication should therefore involve the wider household, including fathers, grandparents, and other caregivers. A family-



centered approach may improve shared responsibility for child nutrition and health.

The study has limitations. First, it relied on published aggregate SSGI 2024 tables, so individual-level statistical analysis was not possible. Second, the composite score was interpreted descriptively without adjustment for education, socioeconomic status, place of residence, or health service exposure. Third, the study could not assess whether high knowledge and attitudes were associated with actual feeding, hygiene, or health care practices. Despite these limitations, the findings provide useful national evidence on caregiver stunting literacy and can guide education strategies, Posyandu counseling, maternal classes, and community-based behavior change communication.

5. Conclusions

Caregiver knowledge and attitudes toward stunting prevention in Indonesia remain limited when assessed comprehensively across definition, causes, prevention, and consequences. SSGI 2024 showed that the national composite high/good score was only 1.7%, while high/good scores for separate aspects ranged from 2.0% for definition to 26.9% for consequences [1]. These findings suggest that many caregivers may recognize the seriousness of stunting but lack integrated understanding of its causes and preventive actions. Strengthening stunting literacy should therefore remain a priority in nutrition and health care programs.

The results also indicate geographic and demographic variation in comprehensive knowledge and attitudes. Selected provincial findings showed higher values in Central Java and lower values in several other provinces, while female respondents had higher scores than male respondents [1]. These differences highlight the need for targeted and context-sensitive communication strategies. Stunting prevention messages should be adapted to local conditions, caregiver characteristics, and household decision-making structures. Community-based counseling should reach not only mothers but also fathers and other family members.

Policy and program efforts should move beyond general awareness campaigns toward practical, repeated, and family-centered nutrition education. Posyandu, maternal classes, family support teams, primary health care, and community organizations can be used to deliver integrated messages on maternal nutrition, breastfeeding, complementary feeding, hygiene, infection prevention, and growth monitoring. Future studies should use individual-level SSGI microdata or primary surveys to identify determinants of caregiver knowledge and attitudes. Such evidence would help design more effective behavior change strategies. Overall, improving caregiver knowledge and attitudes is essential for sustaining Indonesia's progress in reducing stunting.

Supplementary Materials: Not applicable.

Author contributions: Designing the study, data extraction, and data analysis: Author 1; manuscript drafting and reference preparation: Author 2; conceptualization and critical revision: Author 3.

Competing interests: The authors declare that they have no competing interests.

Acknowledgments: The authors acknowledge the Ministry of Health of the Republic of Indonesia for publishing the SSGI 2024 report as a public data source. No external funding was received for this secondary analysis.

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